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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,092	07/31/2003	Daniel D. Haas	86157NAB	3221

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EXAMINER

VU, MINDY D

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,092

Applicant(s)

HAAS ET AL.

Examiner

Mindy Vu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-27 is/are allowed.
- 6) ☒ Claim(s) 1-16, 18-24 and 28-33 is/are rejected.
- 7) ☒ Claim(s) 17 and 34-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/31/03 & 12/02/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Applicant's application filed on July 31, 2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14, 18, 20, 24, 30-31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zur (6,784,433) in view of Cato (5,874,724).

With respect to Claims 1, 20, 30, and 31, Zur teaches a digital film grain for detection of x-rays (Col. 1 lines 34-38) which comprises: a photodetector which produces an electrical signal having a strength which is related to an input x-ray flux (Col. 1 lines 26-31). Zur lacks a transponder which receives said electrical signal and transmits information quantifying said electrical signal. Cato teaches a radio frequency identification tag includes a detector for receiving a command signal and generating a detected signal in response to the directional signal (Col. 1 lines 50-55). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify a photodetector with a transponder so that it enabled to receive, store, and transmit article-identifying data.

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With respect to Claim 2, Zur teaches wherein said photodetector is a light sensitive element (Col. 12 lines 1-7).

With respect to Claims 3 and 4, Zur teaches said photodetector is a direct radiation detection element (Col. 1 lines 39-42).

With respect to Claim 5, Zur teaches wherein a photoconductive layer may comprise cadmium zinc telluride, lead iodide, mercuric iodide, amorphous selenium or any other such material (Col. 9 lines 22-26). Therefore, it would have been obvious to include cadmium telluride to the group for detection purposes.

With respect to Claim 6, Zur teaches wherein said photodetector is an indirect radiation detector (Col. 12 lines 1-7).

With respect to Claim 7, Zur teaches wherein a luminophor is in proximity to said photodetector (Col. 4 lines 22-36).

With respect to Claims 8-10, Cato teaches transponder comprises a radio frequency generator, an antenna, and a modulator (Col. 3 lines 13-42).

With respect to Claim 11, Cato teaches said transponder extracts electrical energy from a radiated field to provide electrical power for said digital film grain (Col.1

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lines 35-37).

With respect to Claims 12 and 13, Zur teaches the electrical power is stored in a capacitor 166 that located on said digital film grain (Fig. 3).

With respect to Claim 14, Zur teaches a layer of x-ray converting material is in optical contact with a photodetective surface of said digital film grain (Col. 3 lines 48-51).

With respect to Claim 18, Cato teaches said digital film grain has an individual identifier (Col. 1 lines 40-46).

With respect to Claim 24, Zur teaches a digital x-ray grain (Col. 1 lines 12-15) comprising: a charge detector (Col. 3 lines 54-59) which produces an electrical signal having a strength which is related to an input charge flux; a coating applied to said digital film grain for converting x-ray flux to a charge flux (Col. 13 lines 29-35). Zur lacks a transponder which receives said electrical signal and transmits information quantifying said electrical signal. Cato teaches a radio frequency identification tag includes a detector for receiving a command signal and generating a detected signal in response to the directional signal (Col. 1 lines 50-55). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify a photodetector with a transponder so that it enabled to receive, store, and transmit article-identifying

data.

With respect to Claim 33, Zur teaches a digital film grain for detection of visible light, ultraviolet, or infrared radiation which (Abstract) comprises: a photodetector (Col. 3 lines 54-59) which produces an electrical signal having a strength which is related to an input radiation; Zur lacks a transponder which receives said electrical signal and transmits information quantifying said electrical signal. Cato teaches a radio frequency identification tag includes a detector for receiving a command signal and generating a detected signal in response to the directional signal (Col. 1 lines 50-55). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify a photodetector with a transponder so that it enabled to receive, store, and transmit article-identifying data.

Zur also teaches wherein components of said digital film grain are fabricated on a single substrate (Col. 8 lines 26-31).

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zur (6,784,433) in view of Cato (5,874,724) and further in view of Da Silveira et al. (5,659,170).

Zur teaches a digital film grain but lacks it is disposed in a capillary. Da Silveira et al. teaches a sample is introduced into the container through the capillary (Col. 11 lines 1- 10). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to dispose the digital film grain into a capillary for storage purposes.

Claims 19 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zur (6,784,433) in view of Cato (5,874,724) and further in view of Ouvrier-Buffet et al. (6,320,189).

Zur teaches a photodetector but does not explicitly mention what type of detector it is. Ouvrier-Buffet et al. teaches the detector for detection of x-rays includes photodiode, charged coupled device (CCD), complementary metal oxide semiconductor (CMOS), phototransistor, and avalanche photodiode (Col. 1-6 lines 1-30).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeromin et al. (6,075,248) in view of Cato (5,874,724) and further in view of Seppi (6,800,858).

Jeromin et al. teaches an imaging system (Abstract) comprising: a distribution of two or more digital film grains (Fig. 2 element 10) but lacks a base station containing a transponder capable of sending information to and receiving information from to said digital film grains. Cato teaches a radio frequency identification (RFID) base station sends a radio frequency command to a group of RFID tags that an operator desires to find or identify via antenna (Col. 3 lines 21-25). In addition, Seppi teaches an image accumulator which assembles signals related to an light flux received at said digital film grains and arranging said signals in an order dependent upon a location of each of said digital grains (Col. 3 lines 27-43). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a base station containing a transponder and an image accumulator for high image resolution.

Claims 22-23 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeromin et al. (6,075,248) in view of Cato (5,874,724)

With respect to Claim 22, Jeromin et al. teaches a digital film grain which stored the charge in a charge storage capacitor (Col. 3 lines 13-16). Jeromin et al. lacks a radio frequency identification (RFID) tag comprising a list of film grain identification numbers each of which is paired with a location of each of said digital film grains. Cato teaches a RFID tag is being accessed by the base station and can quickly identify individual items in a large group (Col.4 lines 57- 62). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include RFID tags for the digital film grains so that it enabled to receive, store, and transmit article-identifying data.

With respect to Claim 23, Jeromin et al. teaches said RFID tag is attached a matrix comprised of said digital film grains (Fig. 2 and Col. 4 lines 31-42).

With respect to Claims 28 and 29, Jeromin et al. teaches a plurality of photodetectors, each of which produces an electrical signal having a strength which is related to an input photon flux (Col. 4 lines 31-42). Jeromin et al lacks a plurality of transponders, each of which receives said electrical signal and transmits information quantifying said electrical signal. Cato teaches a transponder for receiving a command signal and generating a detected signal in response to the directional signal (Col. 1 lines 50-55). It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to provide a plurality of transponders for the detectors so that they can enabled to receive, store, and transmit article-identifying data.

Allowable Subject Matter

Claims 17 and 34-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 25-27 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 17 is allowable over the art of record because the prior art does not teach or suggest the container contains a material producing a light emission in response to an input radiation flux.

Claims 25-27 are allowable over the art of record because the prior art does not teach or suggest sending a signal and an identification number from each digital grain to an image accumulator and directing a spot of irradiation is sensitive toward a distribution.

Claims 34 and 35 are allowable over the art of record because the prior art does not teach or suggest the spatial dimensions in the substrate are approximately equal with a pixel size of an image.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mindy Vu whose telephone number is 571-272-8539. The examiner can normally be reached on M-F 9am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mv


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